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**FMC Site Visit Trip Report**  
Kristine Koch

**5/20/98**

Arrived at 2:30pm.

Met with Kelly Packard and James Rice to discuss Sampling Letter and overall itinerary.

Watched Safety Video.

Took "Windshield Tour" of facility.

Left facility at 4:30pm

**5/21/98**

Arrived at 8:30am.

Met with Kelly Packard to discuss what areas were to be toured.

1. Phos Dock to view steam condensate collection system

Steam is used to regulate the temperature of the tank cars that transport the phosphorus product. The steam flows through coils located between double walls in the tank cars, collected in the condensate collection sump, and hard piped underground to the IWW pond. During the summer (May through September), the steam condensate is recycled due to water inventory, thus little or no water is sent to the IWW pond via this system.

The only way contaminants can enter from this system is through the collection sump which has a 3 ft. high cement berm around it. Possible sources could be from wash down of overhead equipment, rain water (minimal - highly sheltered area), pipe rupture, or deliberate addition.

2. Boilers to view boiler blow-down and condensate collection system

There are six boilers that contribute blow-down and condensate water to the IWW pond. The water is transported from each boiler via pipes in a covered collection ditch in the main floor of the building. The pipes all merge into one exit pipe that leaves the building and connects with the Phos Dock condensate collection sump.

The only way contaminants can enter from this system is through the Phos Doc collection sump discussed in section 1, above.

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3. Furnaces and ESP to view furnace cooling (dome spray and sidewall cooling)

Source water (groundwater) is fed through transformers for heat exchange and then sent to the IWW recirculation tank. The water in this tank is used for furnace cooling. Furnace cooling is accomplished in two ways: dome spray and sidewall cooling. Dome cooling consists of water sprayed onto the top of the furnace dome that runs down the surface and collected in attached basins around the base of the dome. Depending upon the furnace type, sidewall cooling can either result from water sprayed on the sidewall (just under the dome collection basins) that runs down the surface and collected in attached basins around the base of the furnace, or water flowing between double walls in the side of the furnace. The water is hard piped from the upper and lower spray ring sections to the north end of the furnace building, and then piped underground to the IWW pond.

The only way contaminants can enter from this system is when the cooling water is sprayed or exposed to the atmosphere of the furnace building (e.g., troughs). There were high fumes in the building during the visit that were enough to cause a haze. It was obvious that there was a problem with the scrubbers and all the doors in the building were open. These fumes could easily dissolve into the cooling water causing contamination.

4. Briquette building to view shell around bearing case and cooling water collection

Water from the IWW pond is recirculated for press bearing cooling. The water is hard piped in and out of the system. As the water leaves the system, the pipe opens above a funnel section and the water is allowed to gravity feed into the funnel prior to exiting via piping to the IWW pond.

The only way contaminants can enter from this system is when the water is exiting the system, it is exposed to the atmosphere at a funnel section. Since there is high particulates in this area (we had to wear face masks - respirators), some could enter into the water at this point.

5. Calcining to view water in cooling beams and scrubber fans

Water is hard piped in and out of the cooling beams and the scrubber fans. As the water leaves the cooling beam, the pipe opens above a funnel section and the water is allowed to gravity feed into the funnel prior to exiting via piping to the IWW pond.

The only way contaminants can enter from this system is when the water is exiting the cooling beam, it is exposed to the atmosphere at a funnel section. Since there is high particulates in this area, some could enter into the water at this point.



6. IWW pond and discharge ditch

The IWW pond is an unlined U-shaped pond that collects water from the five sources listed above. The pond is located far from the actual processing plant in the northwest corner of FMC's property. Water from the processing area of the facility is piped to the IWW pond via a north pipe and a south pipe. The north pipe carries water from the Phos Doc, boilers, and furnaces and the south pipe transports water from the briquette and calciner processes. The north and south pipes join at the inlet to the IWW pond. As the water flows through the south end of the pond, a fountain sprays the water to cool it. The water then continues to travel through the pond where it is either conveyed to the outfall, or to the pump house for reuse in the facility or irrigation.

The ditch to the outfall runs eastward from the pond for about 300 feet before it goes under a dirt roadway. There is a six inch high dirt and gravel berm on the north side of the ditch from the pond to this roadway presumably to prevent storm water runoff. The ditch then turns and travels north for about 1/8 mile, goes through a culvert, proceeds for about 300 more feet to the sample station, and then enters an underground conveyance that directs the effluent across Simplot property to the outfall on the Portneuf River.

There is a vast amount of riparian vegetation on both sides of the ditch which should help shade the effluent during the hot summer months. The flow seemed to be moving quite well and is typical of "summer" flow (~1,000 gpm). The winter flows are twice that in the summer because water is not used for irrigation. Both flow and temperature are recorded continuously at the sample station.

7. Outfall

The outfall is located on Simplot property and access approval was necessary. The river was at its highest level and the outfall was covered by about one foot of water.

Had closeout meeting with Kelly Packard, James Rice, and Supervisor at 11:00am.

Left facility at 12:00pm.